

REMARKS

In the Office Action mailed May 20, 2011, the Examiner rejected claims 32-36, 39, 40, 42-48, and 52-57 and objected to claim 57. By way of the foregoing amendments and the markings to show changes cancelled 1-31, 37-38, 41, 49-51, and 57; currently amended 32, 34, 36, 39, 40, 43-47; and 52-54; and new claim 58. The foregoing amendments are taken in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicant would otherwise be entitled in view of the prior art.

Further, by the present amendment, it does not follow that the amended claims have become so perfect in their description that no one could devise an equivalent. After amendment, as before, limitations in the ability to describe the present invention in language in the patent claims naturally prevent the Applicants from capturing every nuance of the invention or describing with complete precision the range of its novelty or every possible equivalent. See, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 62 USPQ2d 1705 (2002). Accordingly, the foregoing amendments are made specifically in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicants would otherwise be entitled.

I. Telephonic Interview

Applicant would like to thank Supervisory Patent Examiner Jennifer Chriss for the time and courtesy extended to Applicant's representative Daniel P. Aleksynas during a telephonic interview conducted on April 25, 2012. In that interview the 35 U.S.C. § 112 rejections and claims as filed on April 17, 2012 were discussed. Examiner Chriss indicated that the arguments and claim amendments overcame all of the §112 rejections.

II. Claim Rejections – 35 U.S.C. § 112

The office action rejected claims 34, 39, 47, and 52-55 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant traverses these rejections.

The office action rejected claims 34, 47, and 54 for including the term "such as." Without acquiescence to this suggestion Applicant has deleted the term "such as." Thus, Applicant

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believes that the rejections have been rendered moot and Applicant respectfully requests that the rejections be withdrawn.

The office action rejected claims 39, 52, and 53 for including the term concentric tubes. The office action alleges that these claims are not commensurate in scope with claim 32 which claims that tubes are hollow. Applicant respectfully disagrees with this rejection. However, without acquiescence to this suggestion, Applicant has amended claims 39, 52, and 53. Thus, Applicant believes that the rejections have been rendered moot and Applicant respectfully requests that the rejection be withdrawn.

The office action rejected claim 56 because claim 56 recites that the two surface layers are made of different materials. The office action alleges that this is not commensurate with claim 32 because claim 32 requires the two surface layers to be matching internal and external structures. Without acquiescence to this suggestion, Applicant has amended claim 32 to delete the term matching. Applicant believes that rejections have been rendered moot and Applicant respectfully requests that the rejection be withdrawn.

III. Claim Rejections – 35 U.S.C. § 103

The office action rejected claims 32-36, 45-48, and 55-56 under 35 U.S.C. 103 as being unpatentable over FR2356509 in view of JP2963070. The office action rejected claims 32, 34, 40, 42-47, and 57 are rejected under 35 U.S.C. § 103 as being unpatentable over Sobolev (6,030,488) in view of JP 2963070. Applicant traverses the rejections for the reasons stated herein.

Paragraph 8

The office action rejected claim 32-36, 45-48, and 55-56 under 35 U.S.C. § 103 as being unpatentable over FR2356509 in view of JP2963070. The office action has not performed fact finding for each and every element of the claims as required in order to create a proper prima facie obviousness rejection. It is well established that, "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The office action has not performed any fact finding where a reference of record teaches the following elements of claims 32 and 46, "wherein the resulting composite has a flexural modulus as measured by ASTM D790/ISO 178 from 200 mPa to 700 mPa"; "wherein the at least two surface layers are an internal tube structure located inside of an

external tube structure, and the internal tube structure is hollow"; and "wherein the epoxy foam is embedded in the two surface layers." The office action has not performed fact finding showing where a reference of record teaches claim 34, which states "the surface layers are a metal foil made of aluminum or steel." The office action has not performed fact finding showing where a reference of record teaches claims 39, 52 and 53, which states, "wherein the internal tube structure and the external tube structure are concentric." The office action has not performed fact finding as to claim 40, which states "the surface layers are made of a metal that includes aluminum." The office action has not performed fact finding as to claims 42-45. In the rejection the office action alleges that "Regarding claim 42, which recites the composite is part of a construction building or transportation vehicle, is not given any patentable weight because of intended use," and "regarding claims 43-45, the language 'configured to' is not given any patentable weight because of intended use." (office action, 11/17/2011 page 5) Foremost, the claims have been amended to remove the term "configured to," thus, Applicant believes that this argument is moot. Furthermore, as recited earlier in this response the court has clearly held that "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Thus, applicant believes that the rejections of claim 42-45 is improper. The office action has not performed fact finding as to claim 58, which states, "the at least two surface layers are encased with the epoxy foam." For at least these reasons, Applicant does not believe a proper *prima facie* obviousness rejection has been presented and Applicant respectfully requests that the rejection be withdrawn.

The office action alleges the amount of epoxy resin in the core and the flexural modulus are result effect variables. Applicant traverses this rejection and Applicant believes that the office action has not presented the proper analysis to show that the amount of epoxy resin in the core and/or the flexural modulus are in fact result effect variables. The court in, *In re Antonie*, 195 U.S.P.Q. 6 (1977 CCPA), rejected an examiner's argument that "efficiency (degree of purification)" was affected by changing "hydraulic loading" of a wastewater treatment plant. The court in rejecting the examiner's finding of a result effect variable states that "[t]he property is that the described devices designed with the ratio will maximize treatment capacity regardless of the values of the other variables in the device." Id. at 8 (emphasis added). The court stated that "It is impossible to recognize, from the experiment taught by El-Naggar, that 'treatment capacity' is a function of 'tank volume' or the tank volume-to-contactor area ratio." Id. at 8. The court then went on to state that, "Such functionality can only be determined from

data representing either efficiency at varying tank volume, fixed throughput, and fixed contactor area or throughput at varying tank volume, fixed efficiency, and fixed contactor area. Each of these experiments represents treatment capacity with fixed contactor area but varying tank volume." Id. at 8.

The fact scenario is similar to that of the present invention. In *Antoine*, the examiner rejected the claims stating that this one variable would be obvious to adjust so that the process is maximized. Here the office action is alleging that by adjusting the amount of epoxy resin in the core the degree of rigidity, strength, and flexural modulus of the structure could be controlled. In *Antoine*, the court found that treatment capacity could be controlled by a multitude of factors and that hydraulic loading is not the only variable that affects efficiency. The court then listed multiple different ways to control efficiency by holding some variables constant and adjusting others; therefore, the court found that this one variable was not a result effect variable and, thus, the claims were not obvious. In the present case, there are a multitude of different things that can affect rigidity and strength of the structure. One such example is the type of epoxy resin. Other such examples, to name a few include, a thicker surface layer, changing the materials of the surface layers, the shape of the structure, and the density of the foam are other factors that may affect the rigidity and strength of the structure, and the office action has not addressed how any of these factors influence the strength and rigidity of the structure. Without performing this analysis Applicant does not believe that the Examiner has established that the amount of epoxy resin is a result affect variable. Applicant respectfully invites the Examiner to perform this analysis. Applicant believes that the office action has not presented a *prima facie* case of obviousness and respectfully request that the rejections be withdrawn.

Under *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007) in light of *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), Applicants believe that a proper 35 U.S.C. § 103 rejection was not made. Although the teaching-suggestion-motivation (TSM) test requirements as applied in *KSR* have been altered to be applied in a less rigid manner, no explanation has been made showing the reasoning to combine FR509 and JP070. The Court in *KSR* said:

Often, it will be necessary...to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known

elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.

KSR, 82 USPQ2d at 1395 (emphasis added). Even under KSR where the TSM test is applied less rigidly: (1) there is no TSM to combine them, (2) there was no apparent reason to combine the elements, and (3) no explicit analysis was made.

The office action has failed to present any explicit facts as to why FR509 and JP070 are combinable. For example, a translation of JP070 has not been provided; thus, Applicant does not believe that the requisite analysis is even possible. Applicant respectfully invites the Examiner to perform this analysis.

Paragraph 9

The office action rejected claim 32, 34, 40, 42-47, and 57 under 35 U.S.C. § 103 as being unpatentable over Sobolev in view of JP2963070. The office action has not performed fact finding for each and every element of the claims as required in order to create a proper *prima facie* obviousness rejection. It is well established that, "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The office action has not performed any fact finding where a reference of record teaches the following elements of claims 32 and 46, "wherein the at least two surface layers are an internal tube structure located inside of an external tube structure, and the internal tube structure is hollow" and "wherein the epoxy foam is embedded in the two surface layers." As to claims 42-45, Applicant renews the discussion above regarding not providing a rejection of these claims. The office action has not performed fact finding as to claim 45, which states, "in which the composite provides strength in a sporting good." Additionally, in paragraph 9 of the office action the office action alleges that claim 57 has been rejection; however, this rejection appears to be in error as in paragraph 10 the Examiner lists claim 57 as being allowable. Thus, Applicant believes that this rejection is in error and respectfully requests that the rejection be withdrawn. For these reasons, Applicant does not believe that a proper *prima facie* obviousness rejection has been made and Applicant respectfully requests that the rejection be withdrawn.

Applicant renews the discussion from paragraph 8 regarding result effect variable and respectfully requests that the rejection be withdrawn as the office action has not performed the analysis required to establish a result effect variable.

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Often, it will be necessary...to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.

KSR, 82 USPQ2d at 1395 (emphasis added). Even under KSR where the TSM test is applied less rigidly: (1) there is no TSM to combine them, (2) there was no apparent reason to combine the elements, and (3) no explicit analysis was made.

The office action has failed to present any explicit facts as to why Sobolev and JP070 are combinable. For example, a translation of JP070 has not been provided and/or referred to in the office action; thus, Applicant does not believe that the requisite analysis is even possible. Applicant respectfully invites the Examiner to perform this analysis.

Paragraph 10

The office action objected to claim 57 and indicated that claim 57 is allowable. Applicant thanks the Examiner for the indication of allowability. Applicant has amended claim 57 into both claims 32 and 46. Thus, Applicant believes that claims 32 and 46 are now allowable and Applicant respectfully requests that all of the claims be allowed.

Paragraph 11

The Examiner alleges that applicant admits that the flexural modulus can be optimized. Foremost, Applicant disagrees that Applicant made such an admission. Moreover, Applicant's remarks were pointing out that the Office Action had not performed the requisite analysis to establish a *prima facie* case of optimization. Without this analysis a case of routine optimization has not established and, thus, the rejection is improper. Applicant respectfully requests that the

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Examiner withdraw this argument as this argument has no basis in fact and the Examiner has not support this assertion with substantial evidence.

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CONCLUSIONS

In view of Applicants' amendments and remarks, the Examiner's rejections are believed to be rendered moot. Accordingly, Applicants submit that the present application is in condition for allowance and requests that the Examiner pass the case to issue at the earliest convenience. Should the Examiner have any question or wish to further discuss this application, Applicant requests that the Examiner contact the undersigned at (248) 292-2920.

If for some reason Applicant has not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent the abandonment of this application, please consider this as a request for an extension for the required time period and/or authorization to charge our Deposit Account No. 50-1097 for any fee which may be due.

Respectfully submitted,

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Daniel P. Aleksynas
Registration No. 62,551
DOBRUSIN & THENNISCH PC
29 W. Lawrence Street
Suite 210
Pontiac, MI 48342
(248) 292-2920

Customer No. 25215